



Monetary Statistics

Financial Programming and Policies
Vang Vieng, Lao PDR
May 5 – 16, 2014

Jan Gottschalk
TAOLAM

Outline

- I. Impact of External and Fiscal Sectors
on Money Creation
- II. Endogenous Money Creation
- III. The Money Multiplier

Impact of External and Fiscal Sectors on Money Creation

External Sector

Monetary survey		
Assets		Liabilities
Net foreign assets		
Accumulation of foreign reserves in BOP	→	Currency in circulation
"money flowing in from abroad"	→	Deposits
→ NFA ↑	→	M1 & M2

3

Impact of External and Fiscal Sectors on Money Creation

Fiscal Sector

Monetary survey		
Assets		Liabilities
Net domestic assets		
E.g., increase in fiscal spending that is bank-financed	→	Currency in circulation
"government injects liquidity into economy by buying goods and services"	→	Deposits
↓	→	M1 & M2
Net credit to government increases		
→ NDA ↑		

4

Outline

I. Impact of External and Fiscal Sectors
on Money Creation

II. Endogenous Money Creation

III. The Money Multiplier

5

Endogenous Money Creation

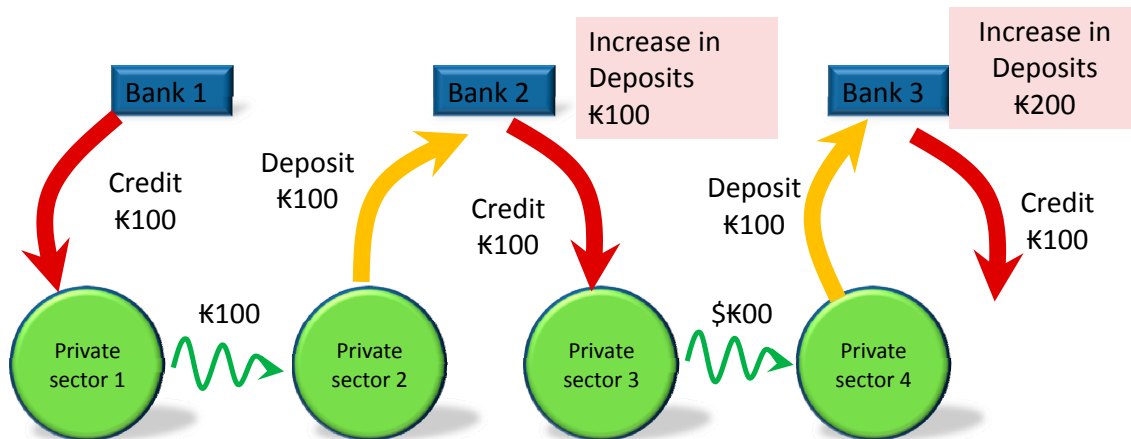
*Let's begin with a YouTube video on fractional reserve
banking ...*



6

Consider Endogenous Money Creation in a World Without Reserve Requirements

Example for boundless endogenous money creation without reserve requirements: a bank extends credit of Kip 100, which fuels further deposit and credit creation ...



7

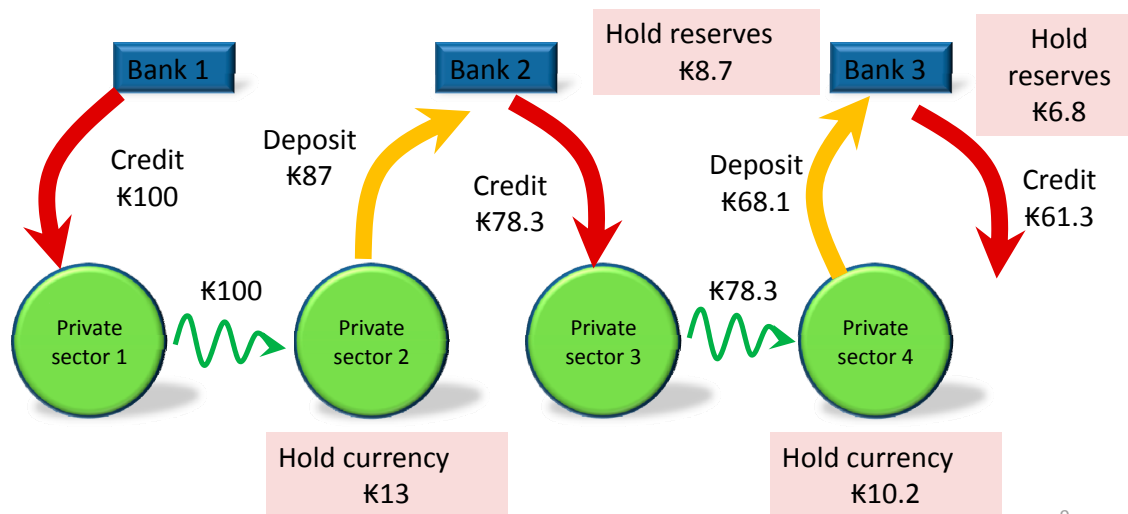
Now Limit Money Creation through Reserve Requirements & Currency Demand

Adding more detail to the Central Bank Balance Sheet:

Net foreign assets (NFA)	Reserve money (RM)
Net domestic assets (NDA)	Currency issued
Net claims on the government (NCG)	Reserves of commercial banks with central bank (deposits with CB)
Claims on commercial banks	Required reserves
Claims on other resident sectors	Excess reserves
Other items net	Other deposits

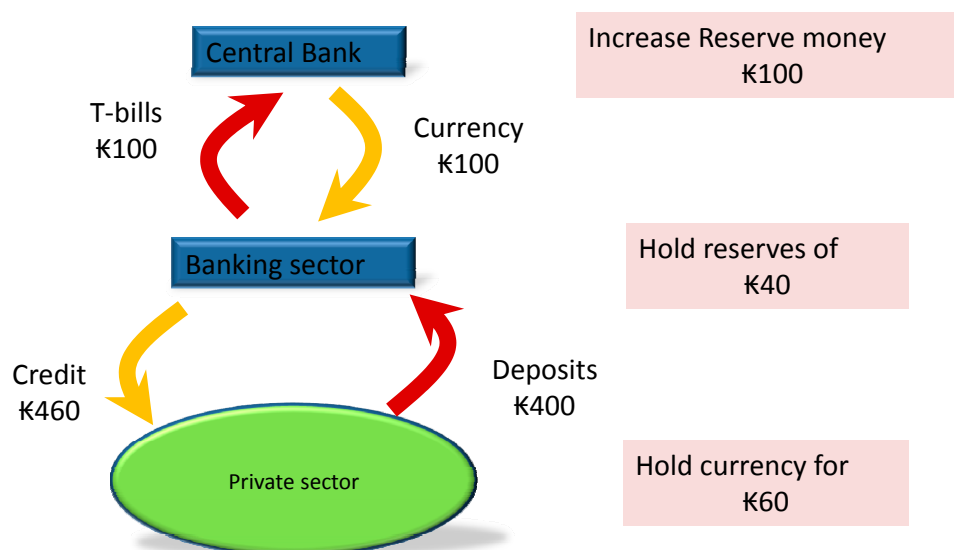
Limiting Money Creation through Reserve Requirements & Currency Demand

Now: a bank extends credit of Kip100 with 10% reserve requirements and currency-to-deposit ratio of 15 %



9

End-result: increase in reserve money by Kip 100 leads to increase in broad money by Kip 460 (deposits 400 + currency 60). That is, increase in broad money exceeds increase in reserve money by factor of 4.6!



10

Outline

- I. Impact of External and Fiscal Sectors on Money Creation
- II. Endogenous Money Creation
- III. The Money Multiplier**

11

The Money Multiplier

The money multiplier provides the link between reserve money—which is under the control of the central bank—and broad money, including credit growth:



12

Deriving the Money Multiplier

The extent of endogenous money creation is governed by the money multiplier which links broad money (M2) to reserve money (RM):

$$M2 = m \cdot RM$$

$$m = \frac{M2}{RM} = \frac{C+D}{C+R} = \frac{\frac{C}{D} + \frac{D}{D}}{\frac{C}{D} + \frac{R}{D}} = \frac{c+1}{c+r}$$

where C = currency in circulation, R = Reserves held at CB (commercial bank deposits at CB) and D = deposits of private sector with commercial banks).

The money multiplier is a function of

- c = currency-to-deposits ratio (behavioral variable)
- r = reserve-to-deposits ratio (policy variable)

13

Determinants of the Money Multiplier

Fundamental determinants of the money multiplier:

- reserve requirements decided by the central bank → matters for reserve-to-deposits ratio
- Willingness of banks to hold excess reserves (liquidity risks, credit risk, foregone interest earnings) → matters for reserve-to-deposits ratio
- Willingness of households and firms to hold cash instead of deposits (liquidity risks, foregone interest earnings) → matters for currency-to-deposits ratio

14

Influencing Money Creation in Lao PDR

Having seen that the central bank can influence the money creation process, how does this work in Lao PDR? Specifically,

- What are the operating targets of the Bank of Lao P.D.R.?
- And what are its instruments?



15

Influencing Money Creation in Lao PDR

Operating Targets and Instruments of Bank of Lao P.D.R. (2012)

- Operating target: still under study (as of 2012)
 - Quantitative-based? (vs. interest-rate based)
 - Operational independence: issue is fiscal financing
- Instruments:
 - Reserve requirements → affects money multiplier
 - Statutory liquidity requirement → also affects money multiplier
 - Money market operations (sales of BoL bonds) → affects bank reserves (withdraws liquidity)
 - Standing facility → also affects bank reserves (injects liquidity)

16

Summary

- Monetary accounts are critical for analysis of monetary conditions and formulation as well as implementation of monetary policy
- Money creation is partly linked to developments in other sectors and partly an endogenous process that can be influenced by monetary policy